

$$\begin{aligned} [0097] \quad m_1 \ddot{x}_1 + c_{1x} \dot{x}_1 + k_{1x} x_1 &= k_{2x} (x_2 - x_1) + F_d \\ (m_2 + m_3) \ddot{x}_2 + c_{2x} \dot{x}_2 + k_{2x} x_2 &= k_{2x} x_1 \end{aligned} \quad (2)$$